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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/924,022

08/07/2001

Bruce E. McNair

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06/07/2004

DALY, CROWLEY & MOFFORD, LLP  
SUITE 101  
275 TURNPIKE STREET  
CANTON, MA 02021-2310

EXAMINER

DAVIS, TEMICA M

ART UNIT

PAPER NUMBER

2681

11

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/924,022

Applicant(s)

MCNAIR

Examiner

Temica M. Davis

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3,7,12,13,18,21 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Carsello, U.S. Patent No. 6,317,474.

Regarding claim 1, Carsello discloses a method for determining the location of a mobile station, comprising: receiving a plurality of simulcast signals from respective base stations (col. 3, lines 10-21); determining relative time of arrival information for the received plurality of simulcast signals (col. 1, lines 57-65); and inherently determining the position (i.e., inherently TOA is used for locating position of mobile) of the mobile station (col. 4, line 64 to col. 5, line 8).

Regarding claim 2, Carsello discloses the method according to claim 1, further including determining the relative time of arrival information using characteristics inherent in the received signal (col. 5, lines 2-6).

Regarding claim 3, Carsello discloses the method according to claim 2, wherein the inherent characteristics of the received signal include time dispersion due to

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simultaneous transmission of the substantially identical simulcast signals (col. 1, lines 36-46).

Regarding claim 7, Carsello discloses the method according to claim 1, further including inherently receiving base station ID information in the respective simulcast signals (col. 4, line 62 to col. 5, line 8).

Regarding claim 12, Carsello discloses the method according to claim 1, further including computing the relative time of arrival information using differential in frequency information (col. 6, lines 21-29).

Regarding claim 13, Carsello discloses the method according to claim 1, further including receiving a signal from a first one of the plurality of base stations to a second one of the plurality of base stations for identifying the simulcast signals from respective first and/or second ones of the plurality of base stations (col. 3, lines 38-46).

Regarding claim 18, Carsello discloses a method for receiving location information for a mobile station, comprising: transmitting simulcast signals to the mobile station; and receiving mobile station location information from the mobile station determined from relative time of arrival information for the simulcast signals (col. 3, lines 10-46 and col. 5, lines 2-8).

Regarding claim 21, Carsello discloses a mobile station, comprising: a receiver for receiving simulcast signals from a plurality of base stations; and a processor for determining time of arrival information for the received simulcast signals and identifying a location of the mobile station (col. 3, lines 10-46 and col. 5, lines 2-8).

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Regarding claim 24, Carsello discloses a wireless network for providing location specific information to a mobile station, comprising: a plurality of base stations for transmitting simulcast signals; a mobile station for receiving the simulcast signals and determining a location of the mobile station (col. 3, lines 10-46 and col. 5, lines 2-8).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 27 is rejected under 35 U.S.C. 102(b) as being anticipated by Budnik et al. (Budnik), U.S. Patent No. 6,052,064.

Regarding claim 27, Budnik discloses a wireless network, comprising: a plurality of base stations for transmitting simulcast signals to mobile stations and receiving mobile station location information to broadcast location specific information to the mobile stations (col. 9, line 40 to col. 10, line 4).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-6, 8, 9, 19, 22, 25 rejected under 35 U.S.C. 103(a) as being unpatentable over Carsello, in view of .Baum et al. (Baum), U.S. Patent No. 5,867,478.

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Regarding claims 4,19,22 and 25 Carsello discloses the limitations in claim 3 but fails to disclose what Baum discloses, which is the method according to claim 3, wherein the received simulcast signals having an OFDM modulation format (col. 7,lines 40-60).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Carsello to include OFDM transmission for the purpose of reducing the impact of interference in OFDM environment.

Regarding claim 5, Carsello further discloses the method according to claim 4, further including estimating channel frequency response (col. 6,.lines 21-29).

Regarding claim 6, Carsello discloses the method according to claim 5, further including transforming the channel frequency response to obtain the relative time of arrival information (col. 5,lines 2-8 and col. 6,lines 21-29).

Regarding claim 8, Carsello discloses the limitations of claim 1, but fails to disclose what Baum discloses, which is the method according to claim 1, further receiving GPS signals for determining the relative time of arrival information (col. 7,lines 42-45).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Carsello to include GPS signals for the purpose of providing synchronization.

Regarding claim 9, Carsello discloses the limitations of claim 1, but fails to disclose what Baum discloses which is the method according to claim 1, further

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including utilizing Doppler shift information associated with movement of the mobile station to determine the position of the mobile station (col. 17, lines 1-7).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Carsello to include Doppler shift for the purpose of computing an estimate of the desired the transmitted signal.

7. Claims 10, 11, 14-16, 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baum, in view of Budnik et al. (Budnik), U.S. Patent No. 6,052,064.

Regarding claim 10, Baum discloses the limitations of claim 1 but fails to explicitly disclose what Budnik discloses which is the method according to claim 1, further including computing a locus of points having a distance from first and second ones of the plurality of base stations that differs by a signal time of arrival difference for signals from the first and second ones of the plurality of base stations (i.e., reads on triangulation, see col. 5, lines 7-19).

At the time of the invention it would have been obvious to one ordinary skill in the art to modify Baum to include a triangulation method for the purpose of locating the mobile.

Regarding claim 11, Budnik further discloses the method according to claim 10, further including further loci of points for further pairs of base stations (i.e., reads on triangulation, see col. 5, lines 7-19).

Regarding claims 14 and 16, Baum discloses the limitations of claim 1 but fails to explicitly disclose what Budnik discloses which is the method according to claim 1,

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further including transmitting the mobile station position from the mobile station to one or more of the plurality of base stations (col. 5, lines 15-19).

At the time of the invention it would have been obvious to one ordinary skill in the art to modify Baum to include a triangulation method for the purpose of locating the mobile.

Regarding claim 15, Budnik further discloses the method according to claim 14, further including transmitting the mobile station position from the one or more plurality of base stations to a network server associated with the one or more plurality of base stations (col. 6, lines 13-32).

Regarding claim 23, Baum discloses the limitations of claim 21, but fails to explicitly disclose what Budnik discloses which is the mobile station according to claim 21, further including a transmitter for transmitting the mobile station location to one or more of the plurality of base stations (col. 5, lines 15-19).

At the time of the invention it would have been obvious to one ordinary skill in the art to modify Baum to include a triangulation method for the purpose of locating the mobile.

Regarding claim 26, Baum discloses the limitations of claim 21, respectively, but fails to explicitly disclose what Budnik discloses which is the network according to claim 24, further including at least one network server for providing location-specific information (i.e., location estimate) to the mobile station based upon mobile station location information provided to one or more of the plurality of base stations (col. 5, lines 15-19).



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At the time of the invention it would have been obvious to one ordinary skill in the art to modify Baum to include a triangulation method for the purpose of locating the mobile.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baum and Budnik, in view of Oren et al. (Oren), U.S. Patent No. 6,725,045.

Regarding claim 17, Baum as modified by Budnik disclose the limitations of claim 15 but fail to disclose what Oren teaches wherein the method according to claim 15, further including broadcasting location-specific advertisements (col. 4, lines 8-13).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Baum as modified by Budnik to include location base advertising for the purpose of notifying mobile units.

9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carselloa and Baum, in view of Budnik.

Regarding claim 20, Carsello as modified by Budnik discloses the limitations of claim 19. Budnik discloses the method according to claim 19, further including transmitting location-specific information to the mobile station (col. 5, lines 15-19).

At the time of the invention it would have been obvious to one ordinary skill in the art to modify Baum to include a triangulation method for the purpose of locating the mobile.

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***Conclusion***

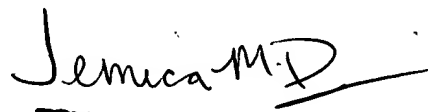
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temica M. Davis whose telephone number is (703) 306-5837. The examiner can normally be reached Monday-Friday (alternate Fridays) from 9:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Erika Gary can be reached on (703) 308-0123. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Temica M. Davis  
Examiner  
Art Unit 2681

May 27, 2004

  
**TEMICA M. DAVIS**  
**PATENT EXAMINER**